**Lesson 7: Mutation Lab (from Amgen kit)**

**Overview:**

This lab exercise will most likely take 1-3 days. The lab performed will be forcing *E.coli* to take up and express an rfp protein through the process called transformation. Essentially the bacteria becomes a mutated form of *E. coli.* As we know from previous activities in the unit, mutation is a mechanism that drives evolution. Students will have pre-lab and post lab activities.

**Objectives:**

Students will be able to:

* Review notes on the process of transformation.
* Follow directions from the teacher and the lab manual.
* Follow safety instructions of the lab.
* Perform the lab.
* Answer post lab conclusion questions
* Hypothesize/predict how they think this new mutated type of *E. coli* could evolve.

**Opening: (Day 1)**

We will review the process of transformation by using the power point slides that accompany the Amgen Bruce Wallace kit. Students will receive a copy of the slides to follow along and will be able to ask any clarifying questions needed before the lab is performed.

**Body:**

Students will spend the main portion of the class practicing effective pipette use and following the directions from “Lab 1: An Introduction to Microvolumentrics and Pipetting”. This will allow them to get used to the materials they will be using when doing the actual transformation lab.

**Closing:**

Students will conclude the class by answering the pre-lab questions for Lab 5 (found in the Teacher’s Guide of the Amgen Lab booklet pg 28).